

reflection of the light from the surface of the air within the Bubbles, and very little to the reflection from the surface of the Water it self: for this last reflection does not return a quarter so many Rays, as that which is made from the surface of the air, as I have certainly found by a multitude of Observations and Experiments.

The whiteness of *Linnen, Paper, Silk, &c.* proceeds much from the same reason, as the *Microscope* will easily discover; for the Paper is made up of an abundance of *pellucid* bodies, which afford a very plentiful reflection from within, that is, from the concave surface of the air contiguous to its component particles; wherefore by the affusion of Water, Oyl, Tallow, Turpentine, &c. all those reflections are made more faint, and the beams of light are suffer'd to traject & run through the Paper more freely.

Hence further we may learn the reason of the whiteness of many bodies, and by what means they may be in part made *pellucid*: As white Marble for instance, for this body is composed of a *pellucid* body exceedingly flaw'd, that is, there are abundance of thin, and very fine cracks or chinks amongst the multitude of particles of the body, that contain in them small parcels of air, which do so *re-percuss* and drive back the penetrating beams, that they cannot enter very deep within that body, which the *Microscope* does plainly inform us to be made up of a *Congeries* of *pellucid* particles. And I further found it somewhat more evidently by some attempts I made towards the making transparent Marble, for by heating the Stone a little, and soaking it in Oyl, Turpentine, Oyl of Turpentine, &c. I found that I was able to see much deeper into the body of Marble then before; and one trial, which was not with an unctuous substance, succeeded better than the rest, of which, when I have a better opportunity, I shall make further trial.

This also gives us a probable reason of the so much admired *Phænomena* of the *Oculus Mundi*, an *Oval* stone, which commonly looks like white Alabaſter, but being laid a certain time in Water, it grows *pellucid*, and transparent, and being suffer'd to lie again dry, it by degrees loses that transparency, and becomes white as before. For the Stone being of a hollow spongie nature, has in the first and last of these appearances, all those pores fill'd with the obtunding and reflecting air; whereas in the second, all those pores are fill'd with a *medium* that has much the same refraction with the particles of the Stone, and therefore those two being *contiguous*, make, as twere, one *continued medium*, of which more is said in the 15. *Observation*.

There are a multitude of other *Phænomena*, that are produc'd from this same Principle, which as it has not been taken notice of by any yet that I know, so I think, upon more diligent observation, will it not be found the least considerable. But I have here onely time to hint *Hypotheses*, and not to prosecute them so fully as I could wish; many of them having a vast extent in the production of a multitude of *Phænomena*, which have been by others, either not attempted to be explain'd, or else attributed to some other cause than what I have assign'd, and perhaps than the right; and therefore I shall leave this to the prosecution of such as have more leisure: onely

onely before I leave it, I must not pretermitt to principle, multitudes of the *Phænomena* of the air, as *alveoli, teors, Haloes, &c.* are most plainly and (perhaps) to multitudes also of the *Phænomena* in colour'd bodies, deducible from it.

And from this I shall proceed to a second consideration, which these Diamants exhibit, and that is the regularity, which is a propriety not less general than the form in its extent, all kinds of *Metals*, all kinds of *Minerals*, all kinds of *Salts*, multitudes of *Earths*, and almost all. And this is another propriety, which, though a little out of notice of by some, has not, that I know, been so far as to be explicated by any.

This propriety of bodies, as I think it the most wonderful, to be consider'd after the contemplation of the former, I have I long had a desire as well as a determination to prosecute, had I had an opportunity, having long since propos'd of my enquiry therein, it containing all the allurements of an enquiry is capable of: For, first I take it to proceed from a principle that any kind of form can come from, none was therefore the first I set upon, and what I have here leave the Judicious Reader to determine. For as to the former, from a propriety of fluid bodies, which I have call'd *gravity*; so I think, had I time and opportunity, I might have shown that all these regular Figures that are so conspicuous, and do so adorn and beautifie such multitudes of bodies above hinted, arise onely from three or four several kinds of *Globular* particles, and those the most plain, obvious, and such plain and obvious causes concurring together, must necessarily compose a body of such a determin'd form, and no other; and this with as much necessity and compulsion, as a body encompast with a *Heterogeneous* fluid must be a *Spherule* or *Globe*. And this I have *ad oculum* demonstrated by a pany of bullets, and some few other very simple bodies, not any regular Figure, which I have hitherto met with, but such bodies that I have above named, that I could not without shaking them together. And thus for instance, three *Globular* bullets will of themselves, if put on an inclined plane, may run together, naturally run into a *triangular* form, and the variety of figures that can be imagin'd to be made of *triangles*; and such will you find, upon trial, all the figures that can be compos'd of: For three bullets lying on a plain, as on a table, they can compose an *equilatero-triangular* form, as you may see. If a fourth be joyn'd to them on either side as close as possible, they will compose the most regular *Rhombus* consisting of two